

REMARKS

Claims 1 to 5 were pending when last examined; claims 6 to 29 were withdrawn. Applicant has amended pending claims 3 to 5 and withdrawn claims 6 to 8, 13, 14, and 18 to 29, and added claim 30. Claims 1 to 5 and 30 are now pending.

Claims 1 and 2

The Examiner rejected claims 1 and 2 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 3,563,633 ("Mauer"). Applicant respectfully traverses.

Mauer does not disclose "a second rear reflecting face devoid of any phase-compensating film stack" as recited in claim 1. Instead, Mauer discloses that "[a]ll reflective surfaces of the prism have triple layer coatings 7, 8 and 9 as shown on surfaces 2 and 3 in the drawing." Mauer, col. 4, lines 10 to 12.

Furthermore, Mauer does not disclose "wherein light enters and exits the cube corner retroreflector with substantially the same polarization orientation and substantially the same polarization ellipticity" as recited in claim 1 (emphasis added). While Mauer discloses phase-compensating films on a cube corner prism that preserves the polarization ellipticity, Mauer's phase-compensating films does not preserve the polarization orientation of the light.

Although the circularly-polarized state of the light is maintained, these reflections of the circularly-polarized light in the cube corner prism may result in a longitudinal phase advancement or retardation of 120° with respect to the phase of incident light depending on the sextant in which the light is incident.

Mauer, col. 3, lines 43 to 48. To compensate the change in the polarization orientation, Mauer discloses additional films are formed on a quarter-wave plate placed before the cube corner prism or on a light-transmitting face of the cube corner prism.

For example, a coating could be included on a portion of the quarter-wave plate or the transmitting face 5 of the prism corresponding to sextant 1a which would retard by 120 the phase of light transmitted through the coating. A similar coating of double thickness would be provided for sextant 2a or 3a to retard 240 (equivalent to a 120 advance) and no coatings would be provided for sextants 1b and 2b.

Mauer, col. 3, lines 64 to 74. The cube corner retroreflector of claim 1 is able to preserve the polarization orientation and the polarization ellipticity without a quarter-wave plate, let alone a quarter-wave plate with a phase-compensating coating. Furthermore, Applicant has amended claim 1 to recite "an entrance/exit face devoid of any phase-compensating film stack."

Accordingly, claim 1 is patentable over Mauer.

-19-

Serial No. 10/734,990

Applicant notes that "phase-compensating film stack induces $2n\pi$ phase difference in light upon reflection, wherein n is any integer including 0" recited in amended claim 1 is not merely discovering an optimum value for a result effective variable as asserted by the Examiner. Instead, it is a property determined by the inventor through mathematical derivation for the phase-compensating film stacks on the first and the second reflecting face to ensure that the polarization orientation and the polarization ellipticity are preserved.

Claim 2 depends from amended claim 1 and is patentable over Mauer for at least the same reason as amended claim 1.

Allowable Subject Matter

The Examiner indicated that claims 3 to 5 would be allowable if rewritten to independent form. Applicants have amended claims 3 to 5 as suggested by the Examiner. Accordingly, claims 3 to 5 are in condition for allowance.


Withdrawn Claims and New Claim 30

Applicant has amended withdrawn independent claims 6, 13, 18, 19, 21, 23, 25, 27, and 29 with similar limitations as amended claim 1. Accordingly, the Examiner should allow withdrawn claims 6 to 29 if the Examiner allows amended claim 1.

New claim 30 depends from withdrawn claim 13 and should be allowed if withdrawn claim 13 is allowed. Otherwise Applicant will withdraw new claim 30.

Summary

Claims 1 to 5 were pending when last examined; claims 6 to 29 were withdrawn. Applicant has amended pending claims 3 to 5 and withdrawn claims 6 to 8, 13, 14, and 18 to 29. For the above reasons, Applicant respectfully requests the Examiner to withdraw the claim rejections/objections and allow pending claims 1 to 5 and withdrawn claims 6 to 29. Should the Examiner have any questions, please call the undersigned at (408) 382-0480 x206.

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Respectfully submitted,



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